

What is claimed is:

1. A method of sharing resources between interconnected software components through hierarchically related backplane elements, comprising:
 - providing a resource database for each of the hierarchically related backplane elements, the resource database being configured to correlate requests for the resources with access information to the resources;
 - receiving in each of the backplane elements registrations for at least a portion of the software components;
 - registering descendant backplane elements with corresponding parent backplane elements, and registering parent backplane elements with corresponding descendant backplane elements; and
 - providing in the resource database of each of the backplane elements an identifier of each of the resources, the identifier specifying access information to the resource.
2. The method according to claim 1, further comprising registering each of the descendant backplane elements as a producer with the corresponding parent backplane element.
3. The method according to claim 1, further comprising registering a portion of the software components with each of the backplane elements as at least one of a

producer and a consumer.

4. The method according to claim 3, further comprising registering each of the software components and each of the descendant backplane elements as at least one of a data consumer, data producer, event consumer and event producer.

5. The method according to claim 1, further comprising registering each of the parent backplane elements with the corresponding descendant backplane elements as a consumer.

6. The method according to claim 1, wherein the step of providing the identifier for a resource owned by a software component comprises:

determining a name of the backplane element to which the software component is registered;

determining a descendance chain of the backplane element;

determining a name of the software component that owns the resource;

determining a name of the resource; and

creating the resource identifier as a sequence of at least one of the descendance chain, backplane element name, software component name and resource name.

7. The method according to claim 1, wherein the step of registering the descendant backplane elements further comprises listing a name of the descendant backplane

element as a producer in a component list of the parent backplane, and providing a mapping to the descendant backplane in the resource database of the parent backplane.

8. The method according to claim 6, further comprising creating the identifier including a blank backplane element name when the backplane element is a default backplane element, and creating the identifier with a blank descendance chain when the descendance chain is a default descendance chain.

9. The method according to claim 8, wherein the default backplane element name corresponds to a backplane element receiving the identifier.

10. The method according to claim 8, wherein the default descendance chain corresponds to a descendance chain of the backplane element receiving the identifier.

11. The method according to claim 1, further comprising de-registering selected resources from backplane elements where the selected resources are registered.

12. The method according to claim 1, further comprising de-registering selected descendant backplane elements from the corresponding parent backplane elements.

13. A multi layer hierarchical system for sharing resources between interconnected

components, the system comprising:

a plurality of layers forming a hierarchical branching structure, each of the layers having a backplane element;

producer and consumer software components listed with the backplane element of at least one layer;

resources each associated with one of the producer software components; and

a resource database of the backplane element, the resource database correlating requests for the resources from the consumer components with access information to the resources of the producer components, each of the resources having an identifier specifying access information to the resource.

14. The system according to claim 13, wherein each of the resources is registered with the backplane element of at least one layer.

15. The system according to claim 13, wherein each of the components is listed with the backplane element of at least one layer.

16. The system according to claim 15, wherein each of the resources is registered with the backplane element in which the associated producer component is listed.

17. The system according to claim 13, wherein the identifier is formed at least in part from names of parent layers of the backplane element, a name of the backplane

element in which the producer software component is listed, a name of the associated producer component, and a name of the resource.

18. The system according to claim 17, wherein the identifier is further formed at least in part from a method call associated with the resource and an instance reference of the resource.

19. A method of accessing a resource of a network, comprising:

- receiving a resource identifier from a consumer software component associated with a consumer backplane;
- parsing the resource identifier to determine a location of the resource in the network;
- accessing a producer software component at the determined location, the producer software component having the resource; and
- providing an output of the resource to the consumer software component.

20. The method according to claim 19, wherein the resource identifier comprises a descendance chain of a producer backplane having the resource, a name of the producer software component, and a name of the resource.

21. The method according to claim 19, wherein the accessing step further comprises the steps of:

- sending the resource identifier to a producer backplane being determined from

the resource identifier, the producer software component being registered with the producer backplane; and

accessing the producer software component from the producer backplane.

22. A system comprising:

a first backplane having a first backplane identifier, the first backplane including

a component data structure configured to store component names related to components accessible via the first backplane, the components having resources;

a resource data structure configured to store mappings corresponding to resource identifiers of resources accessible via the first backplane;

a backplane control module including a parser configured to determine a resource location based on the resource identifiers; and

a second backplane having a second backplane identifier, wherein the second backplane identifier is included in the component data structure, and wherein mappings corresponding to second backplane resource identifiers of resources accessible via the second backplane are included in the resource data structure.

23. The system according to claim 22, wherein the parser is configured to locate resources by correlating the resource identifiers with location data of the resource data structure.

24. The system according to claim 22, wherein the parser is configured to locate

resources of the second backplane by correlating the second backplane resource identifiers with location data of the resource data structure.

25. The system according to claim 24, further comprising a second backplane resource data structure of the second backplane configured to provide a parser of the second backplane with mappings to resources identified by the second backplane resource identifiers.